

December 9, 2022

## KEY TAKEAWAYS

- Weekly cases across the Commonwealth have risen to 17.6 per 100k. This figure is up from 10.6 per 100k last week. The statewide effective reproduction number ( $R_e$ ) is now 1.067. All health regions aside from Northwest are also above one.
- Thirty health districts are now in growth trajectories. Fifteen of these are in surge.
- Ten counties and cities are now reporting high CDC community levels. Masking is recommended for all residents in these areas. A further 55 locales are at medium community levels, where masking is recommended for high-risk individuals.
- COVID19 hospitalizations are up to 650 this week. This is the highest they've been since September 20th. This also represents a 35% increase in two weeks. Influenza hospitalizations are up significantly as well. Flu cases now account for almost half of respiratory illness hospitalizations in Virginia. Continued growth by both may tax the hospital system in the coming weeks.
- Variant proportions have evolved as expected, with BQ.1 and BQ.1.1 dominating new growth. Growth of BF.7 and BN.1 has stagnated, but XBB is starting to emerge.
- Models continue to suggest the possibility of another winter surge. It is critical for Virginians to get their flu shots and their bivalent COVID19 boosters. Along with practicing good prevention, this can help significantly slow the coming surge.

**1,169,518**

Total Bivalent Booster Doses Administered by Dec. 8, 2022

**13.7% / 35.2%**

Of eligible Virginians / Seniors have received a Bivalent Booster as of Dec. 8, 2022

**29.2% / 55.3%**

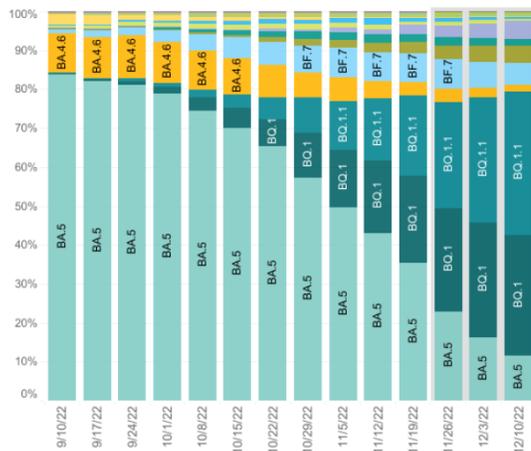
Of Virginians / Seniors have received an annual Flu shot as of December 8, 2022

**10 / 55**

Virginia Localities at High / Medium Community Levels as of December 8, 2022

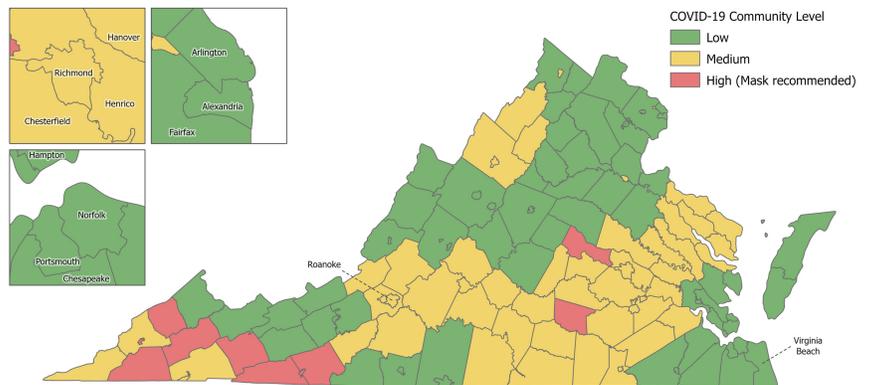
## KEY FIGURES

### Variant Mix - HHS Region 3



### CDC Community Levels

As of December 8, 2022

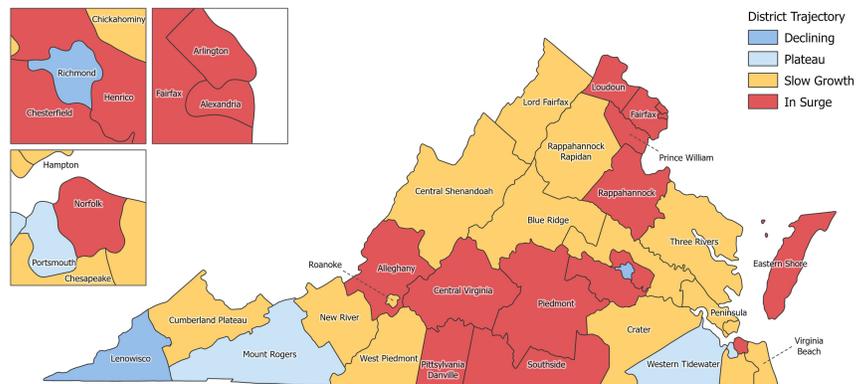


Click Map for Full Size Image

### Growth Trajectories: 15 Health Districts in Surge

Status	# Districts (prev week)
Declining	2 (12)
Plateau	3 (10)
Slow Growth	15 (13)
In Surge	15 (0)

Click Table for Dashboard



Click Map for Full Size Image

## THE MODEL

The UVA COVID-19 Model and weekly results are provided by the UVA Biocomplexity Institute, which has over 20 years of experience crafting and analyzing infectious disease models. It is a health district-level **S**usceptible, **E**xposed, **I**nfected, **R**ecovered (SEIR) model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic. The Institute is also able to model alternative scenarios to estimate the impact of changing health behaviors and state policy.

**COVID-19 is a novel virus,  
and the variant mix  
changes periodically.  
These models improve  
as we learn more.**

## THE SCENARIOS

**Unchanged:** The model uses scenarios to explore the potential paths the pandemic may take under future conditions. Model projections take a variety of factors into account, including current variants, vaccine uptake, vaccination/boosting rates, previous infection, waning immunity, weather, and behavioral responses. All models now account for bivalent boosters. Unless otherwise specified, they assume that they will match the 3rd dose booster rollout. The **"Adaptive"** scenario represents the current course of the pandemic, projecting it forward with no major changes. The **"VariantX"** modifier explores the potential impact of new variants such as BQ.1.1. It is assumed that these variants will have the same immune escape and transmissibility advantages over BA.4/5 that BA.4/5 did over the earlier BA.2. See [page three of the July 15 report](#) for details. The **"FallWinter"** modifier layers seasonal increases associated with colder weather, holiday gatherings, and travel, on top of the base scenarios. It does this by artificially adjusting transmissibility between September and January to match transmissibility from the same time last year. The **"OptBooster"** (optimistic) modifier assumes that bivalent booster coverage will increase *beyond* the current pace and be 25% higher than 3rd dose boosters from Fall of 2021. The new **"NoMoreBooster"** examines the impact of a reduced vaccine rollout, and assumes that boosters stop at current levels.

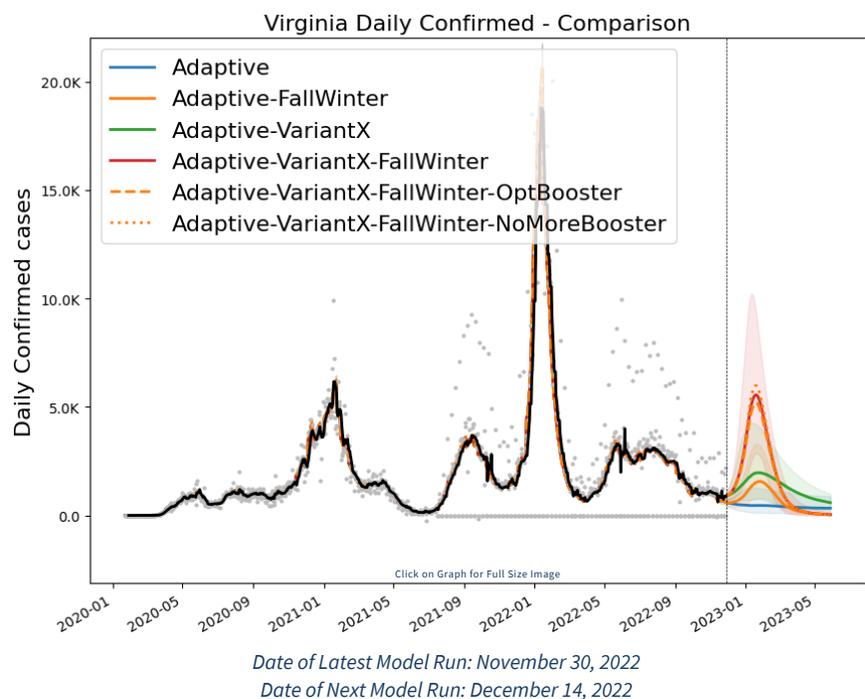
## MODEL RESULTS

**Updated:** As always, the current course **"Adaptive"** scenario is shown in blue. This scenario projects a continued decline of cases. This scenario forecasts case rates reach about 500 per day by Christmas.

Both the **"Adaptive-FallWinter"** (orange) and **"Adaptive-VariantX"** (shown in green) scenarios project mild surges. Both peak in the last week of January, at 1,500 and 2,000 daily cases respectively.

The **"Adaptive-VariantX-FallWinter"** (red) combines both the effects of the new variants with the holiday seasonal forcing. The combination allows for a significant surge, peaking at about 5,500 daily cases in mid-late January, before steadily declining.

Both **"OptBooster"** and **"NoMoreBooster"** scenarios (dashed orange lines) are applied to the VariantX-FallWinter scenario. They show that increasing booster uptake could prevent over 16,700 cases. If booster rates slow, this could cause an extra 16,100 cases.



**Please note:** The data and projections shown here reflect reported cases. During the Omicron wave, testing shortages resulted in far fewer infections being reported as cases. This suggests fewer total infections than experienced in January. Please see [page three of the May 13th modeling report](#) for more details.

[\(Explore the model results in detail on this dashboard\)](#)